

signal transducers.

9. (Amended) The biodetector of Claim 6 wherein said substance is selected from the group consisting of microorganism, virus, retrovirus, protein, sugar, and ion.

a²
16. (Amended) The [biodetector] method of Claim 10 wherein said substance is selected from the group consisting of microorganism, virus, retrovirus, protein, sugar, and ion.

Sub B1
~~21. The biodetector of claim 7, wherein said membrane signal transducer is derived from PhoQ.~~

22. The biodetector of claim 1, wherein said biodetector is sheltered in a genetically engineered bacterial cell.

a³
23. The biodetector of claim 1, wherein said signal converting element is a transmembrane fusion protein comprising an extracellular ligand-specific moiety and an intracellular enzymatic signal transforming domain.

24. The biodetector of claim 23, wherein said extracellular ligand-specific moiety is derived from an antibody.

25. The biodetector of claim 23, wherein said enzymatic signal transforming domain comprises an active domain of PhoQ.

26. The biodetector of claim 23, wherein said fusion protein is a fusion of an active domain of PhoQ, and a region of a heavy chain antibody.

27. The biodetector of claim 5, wherein said gene product is detectable by means of bioluminescence.--.

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